![ManTech - Securing the Future]

CTEP
Platform

Training Cyber Warfighters as They Would Fight

The Requirement

The United States Marine Corps Cyber Range (MCCR) has a requirement to configure a USMC training platform based on the Navy SAGA platform.

- Develop training scenarios
- Remotely accessible for global use
- PKI enabled with CAC authentication
- 24/7/365 availability

The Vision

The Vision of the Cyber Training and Evaluation Platform (CTEP) is to provide USMC Cyber Warfighters with an environment that simulates their battlefield and emulates friendly and threat operations with no discernable difference from operational landscapes.

The Mission

The Mission of the CTEP is to provide Cyber Warfighters an operationally realistic training environment to:

- Train and assess CNA/CND/CNO TTPs
- Conduct live fire cyber exercises
- Support Garrison, Schoolhouse, and Deployed / Tactical missions
- Support any IT-enabled training requirement
- Provide test and evaluation scoring

The Construct

CTEP enables the creation of Cyber Warfighter maneuver areas to support full-spectrum cyber training, evaluation, and testing:

- Enables users to dynamically provision their own training modules

CyberLMS Learning Management System

- Available on CAC-authenticated public circuit to any Marine, anywhere in the world
- Supports not only single user course modules, but also multi-user cooperative and/or contested scenarios
- SCORM compliant architecture and Learning Management System (LMS)
- Central cloud training environment
- Rapid self-provisioning-instructors create their own environments
- Traceable and relevant traffic generation and threat injection enabling cyber forensics
- Accessible on-site in Stafford, VA and remotely
- Access other single-purpose lab environments (e.g., ICS, SCADA)
- Massive scalability for MEF-level training and exercise support

The Successes

CTEP incorporates customer training to develop and provide environments suitable for exercise and training. Existing Programs of Instruction (POI) are adapted for on-line training and provided as part of an overall course selection.

CTEP has had several successes during its initial proof of concept pilot effort. Partnering with the Marine Corps Communication-Electronics School (MCCES), CTEP has already proven itself to be a cyber force multiplier.

MCCES Basic Communications Officer Course (BCOC)
BCOC provides leadership and professional training in communications and data systems to prepare company grade officers for entry level billets in the Operating Forces, with a concentration on the duties of the S-6. Currently, BCOC is a 20-week POI, conducted twice per year in Twentynine Palms, California.
- 78 students participated remotely in BCOC labs

MCCES Advanced Communications Officer Course (ACOC)
ACOC is a 10-week course that provides formal skill progression-training in technical planning to captains and majors serving in the operating forces, and other select planners. Communications Marines and sister-service communications officers attending the Expeditionary Warfare School attend ACOC as part of their Occupational Field Enhancement Curriculum.

MCCR developed the Systems Planning Engineering and Evaluation Device (SPEED) application within CTEP to enable all students to have their own instance of the application. SPEED resulted in noticeably faster display rendering than is found on local hardware.
- 30 students participated in the ACOC

Cybersecurity Assessment Methodology (CAM) Course
CAM provides an adaptable methodology for conducting cyber assessments based on an evolving Marine Corps methodology and trains students to conduct non-technical and technical Cyber Assessments using an adaptable methodology. 50 students participated in CAM remotely from locations in MCB Quantico, Camp Lejeune, Camp Pendleton, Kaneohe Bay, and New Orleans. Students included members of Cyber Protection Teams 61 and 81.

The Architecture

CTEP architecture is designed to allow remote access and user selfregistration via CAC authentication.

CTEP is hosted within the Department of Defense Cyber Security Range Network Interface Boundary, which provides security and external access.

CTEP has a custom-built LMS that has been tailored to USMC cyber warfighter POIs and learning methods.

CTEP provides a custom environment creation capability that can be tailored to any training, any scenario, and any environment. It can also provide access to the Marine Corps Enterprise Network Tier II/III replications for enterprise realism.

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